

REMARKS

The above amendments are made in response to the Final Office action of March 22, 2007. The Examiner's reconsideration is respectfully requested in view of the above amendment and the following remarks. No new matter has been added, amendments have been made for purposes of clarifying the claimed invention.

Claim 1 has been amended. Support for the amendments to claim 1 may be found at least in FIG. 5 and pages 13-14 of the application as filed. New claims 19 and 20 have been added. Support for the new claims may be found at least in FIGS. 5 and 6 and pages 13 and 14 of the application as filed. Claims 1-7 and 11-20 are pending in the present application, claims 12-16 have been previously withdrawn leaving claims 1-7, 11 and 17-20 for further consideration.

Rejections Under 35 U.S.C. § 103

In order for an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all of the elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996). See MPEP 2143.

Claims 1-3, 7, 11 and 18

Claims 1-3, 7, 11 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hack et al. (U.S. Patent No. 5,204,661, hereinafter "Hack") in view of the new reference Kubo et al. (U.S. Patent No. 6,195,140, hereinafter "Kubo") in view of Shimada et al. (U.S. Patent No. 5,910,829, hereinafter "Shimada") and further in view of

Street et al. (U.S. Patent No. 5,920,401, hereinafter "Street"). The Examiner has stated that Hack in view of Kubo and Shimada and further in view of Street discloses all of the elements of the abovementioned claims.

Hack discloses an input output circuit and a corresponding array of such circuits. (See Abstract). Hack discloses a display including an array of pixels, each pixel having a display driving region 15, a current conducting region 14 and a photosensor circuit region 12. (See FIG. 2). Hack discloses that a color filter may be placed over individual sensors of the photosensor circuit region. (See column 11, lines 20-44). Hack also discloses that sensors may be placed in only a few of the pixels of the array. (See column 11, lines 53-55).

The Examiner states on page 3 of the present Office action that Hack fails to teach, suggest or disclose **a transparent electrode disposed above at least a portion of the pixel portion and a reflective electrode disposed on at least a portion of the transparent electrode** as claimed in independent claim 1, which the Examiner further states is disclosed primarily in FIGS. 1 and 2 of Kubo. In addition, Hack fails to disclose **wherein the reflective electrode includes an opening window disposed over the light sensing portion** as claimed in amended independent claim 1.

Kubo discloses a liquid crystal display including both a transmissive region and a reflective region so that the liquid crystal display may be operated using a backlight passed through the transmissive region and may also operate using externally supplied light reflected from the reflective region. (See Abstract). Kubo discloses a pixel 1 having both a transmission electrode region 20 and a reflection electrode region 22. Kubo discloses a thin film transistor (elements 12-18) for driving a pixel of the liquid crystal display, above which is disposed an interlayer insulating film 19. A transparent conductive film 21 is disposed on the interlayer insulating film 19 along the entire surface of each pixel, leaving a gap between pixels so each pixel may be operated independently. (See FIG. 2). A metal film 23 is then disposed on portions of the transparent conductive film 21. Regions of the pixel covered by both the metal film 23 and the transparent conductive film 21 become the reflective electrode region 22 and regions covered by only the transparent conductive film 21 become transmissive electrode regions 20. Kubo does not include a light sensing portion.

Kubo fails to teach suggest or disclose **a display device comprising: a transparent electrode disposed above at least a portion of the pixel portion and a reflective electrode disposed on at least a portion of the transparent electrode ... wherein the reflective electrode includes an opening window disposed over the light sensing portion** as claimed in amended independent claim 1. Firstly, there are no light sensing portions in Kubo, and therefore Kubo fundamentally cannot disclose the relationship of a window in a reflective electrode with respect to a light sensing portion. Secondly, Kubo does not teach an opening window; the gaps shown in FIG. 2 simply represent spacing between adjacent pixel electrodes, i.e., these gaps are not windows for allowing light to pass through to the underlying substrate of a pixel. Furthermore, there would be no motivation to combine the reflective electrode of Kubo with the array of Hack to arrive at the claimed invention because Kubo provides the reflective electrode (the metal film 23) in order to operate in a reflective mode of a transfective display which is unrelated to the display panel with display panel processing input data of the present invention.

Shimada discloses a liquid crystal display device including a color filter which includes a plurality of colored portions and a light blocking layer. (See Abstract).

Shimada fails to teach suggest or disclose **a display device comprising: a transparent electrode disposed above at least a portion of the pixel portion and a reflective electrode disposed on at least a portion of the transparent electrode ... wherein the reflective electrode includes an opening window disposed over the light sensing portion** as claimed in amended independent claim 1.

Street discloses an LCD and image sensor using high sensitivity, relatively small sized sensors. (See Abstract and column 7, lines 1-37).

Street fails to teach suggest or disclose **a display device comprising: a transparent electrode disposed above at least a portion of the pixel portion and a reflective electrode disposed on at least a portion of the transparent electrode ... wherein the reflective electrode includes an opening window disposed over the light sensing portion** as claimed in amended independent claim 1.

Thus, Applicants submit that Hack, Kubo, Shimada and Street, alone or in combination, do not render obvious the subject matter of amended independent claim 1.

Claims 2, 3, 7, 11 and 18 depend from amended independent claim 1, and thus include the allowable elements of claim 1. It is thus believed that the dependent claims are patentable over the cited references for at least the reasons given above for independent claim 1.

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited references. The Examiner's reconsideration and withdrawal of the rejection of claims 1-3, 7, 11 and 18, and the subsequent allowance of those claims, is respectfully requested.

Claims 4 and 6

Claims 4 and 6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hack in view of Kubo and Shimada in view of Street and further in view of Matsumoto et al. (U.S. Patent No. 4,097,128, hereinafter "Matsumoto"). The Examiner has stated that Hack in view of Kubo, Shimada and Street and further in view of Matsumoto discloses all of the elements of the abovementioned claims.

Matsumoto discloses a color liquid crystal display device having a peak of light transmission over the range of wavelengths between 600 nm and 700 nm, and thereby displaying a distinct red light. (See Abstract and column 19, line 65 through column 20, line 7).

Matsumoto fails to correct the deficiencies of Hack, Kubo, Shimada and Street as discussed above, namely, Matsumoto fails teach suggest or disclose **a display device comprising: a transparent electrode disposed above at least a portion of the pixel portion and a reflective electrode disposed on at least a portion of the transparent electrode ... wherein the reflective electrode includes an opening window disposed over the light sensing portion** as claimed in amended independent claim 1.

Thus, Applicants submit that Hack, Kubo, Shimada, Street and Matsumoto, alone or in combination, do not render obvious the subject matter of amended independent claim 1. Claims 4 and 6 depend from amended independent claim 1, and thus include the allowable elements of claim 1. It is thus believed that the dependent claims are

patentable over the cited references for at least the reasons given above for independent claim 1.

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited references. The Examiner's reconsideration and withdrawal of the rejection of claims 4 and 6, and the subsequent allowance of those claims, is respectfully requested.

Claim 5

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hack in view of Kubo, Shimada and Street and further in view of Cook (U.S. Patent Application No. US 2002/0021291, hereinafter "Cook"). The Examiner has stated that Hack in view of Kubo, Shimada and Street and further in view of Cook discloses all of the elements of claim 5.

Cook discloses a stylus with a light emitting diode which may be white. (See Abstract and paragraphs 0028-0030).

Cook fails to correct the deficiencies of Hack, Kubo, Shimada and Street as discussed above, namely, Cook fails teach suggest or disclose **a display device comprising: a transparent electrode disposed above at least a portion of the pixel portion and a reflective electrode disposed on at least a portion of the transparent electrode ... wherein the reflective electrode includes an opening window disposed over the light sensing portion** as claimed in amended independent claim 1.

Thus, Applicants submit that Hack, Kubo, Shimada, Street and Cook, alone or in combination, do not render obvious the subject matter of amended independent claim 1. Claim 5 depends from amended independent claim 1, and thus includes the allowable elements of claim 1. It is thus believed that the dependent claims are patentable over the cited references for at least the reasons given above for independent claim 1.

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited references. The Examiner's reconsideration and withdrawal of the rejection of claim 5, and its subsequent allowance, is respectfully requested.

Claim 17

Claim 17 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hack in view of Kubo, Shimada and Street and further in view of Huang (U.S. Patent Application No. 6,099,185, hereinafter "Huang"). The Examiner has stated that Hack in view of Kubo, Shimada and Street and further in view of Huang discloses all of the elements of claim 17.

Huang discloses a light pen with multicolor light sources. (See Abstract).

Huang fails to correct the deficiencies of Hack, Kubo, Shimada and Street as discussed above, namely, Huang fails teach suggest or disclose **a display device comprising: a transparent electrode disposed above at least a portion of the pixel portion and a reflective electrode disposed on at least a portion of the transparent electrode ... wherein the reflective electrode includes an opening window disposed over the light sensing portion** as claimed in amended independent claim 1.

Thus, Applicants submit that Hack, Kubo, Shimada, Street and Huang, alone or in combination, do not render obvious the subject matter of amended independent claim 1. Claim 17 depends from amended independent claim 1, and thus includes the allowable elements of claim 1. It is thus believed that the dependent claims are patentable over the cited references for at least the reasons given above for independent claim 1.

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited references. The Examiner's reconsideration and withdrawal of the rejection of claim 17, and its subsequent allowance, is respectfully requested.

Conclusion

In light of the above remarks, the present application including claims 1-7, 11 and 17-20 are believed to be in condition for allowance.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejections. If there are any charges due with respect to this response, please charge them to Deposit Account No. 06-1130 maintained by Applicants' Attorneys.

Respectfully submitted,

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